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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,790	08/04/2003	Paul Gaudron	056409-5092	5559

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EXAMINER

MITCHELL, KATHERINE W

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/632,790	<b>Applicant(s)</b> GAUDRON, PAUL	
	<b>Examiner</b> Katherine W. Mitchell	<b>Art Unit</b> 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) 7-9 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5 and 10-15 is/are rejected.  
7) ☒ Claim(s) 6 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 8/4/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/25/2005.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 1-6 and 10-11 in the reply filed on 7/30/2004 is acknowledged. Applicant is reminded that a complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
2. Claims 7-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method of forming, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/30/2004.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bappert USP 3911781.

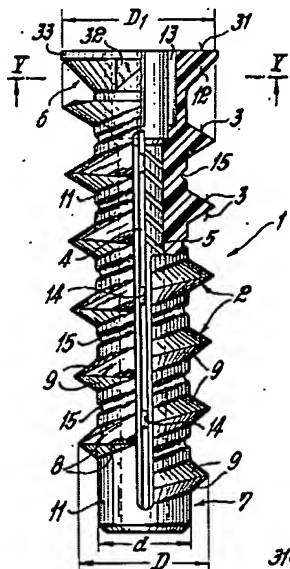


Fig 3 Bappert

Re claims 1,2, and 10-12: Bappert teaches a fastener (1) comprising

- A metal shank (11 in Fig 3; metal col 4 lines 38-40) having an approximate constant diameter (d in Fig 3)
- A helical thread formed on the shank, wherein the ratio of the thread diameter (D) to the shank diameter(d) is at least 1.5 to 1 (col 4 lines 11-25; D:d is approx 3:1; also "D" is described as double "d")
- A helical uneven surface (15 in Fig 3) formed on at least part of the shank.

Further Re claim 10: Col 1 lines 58- col 2, line 21, teach the method of supporting a structure using the fastener (screw and sleeve), comprising the steps of:

- Providing said fastener, which is self tapping (col 1 lines 66-68), including a head (Fig 3 and frustoconical enlargement (12) at trailing end (6) described in col 4 lines 55-60) and shank (11 in Fig 3; metal col 4 lines 38-40); said shank having a minor diameter (d) and major diameter (D) defined by helical threading on shank, wherein the ratio of

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the thread diameter (D) to the shank diameter(d) is at least 1.5 to 1 (col 4 lines 11-25;

D:d is approx 3:1; also "D" is described as double "d"),

- Driving the fastener into frangible material such that the fastener and structure are supported entirely by the frangible material of sheet rock and masonry. (Gypsum wall taught as material in col 1 lines 8-40, which further disclose no additional support except the wall).

**Sheet-rock** (shê't'ròk')

A trademark used for plasterboard.

**plas-ter-board** (plàs'ter-bôrd', -bord') *noun*

A rigid board made of layers of fiberboard or paper bonded to a gypsum plaster core, used instead of plaster or wood panels in construction to form walls. Also called *gypsum board*, *wallboard*

**gypsum board** (jîp'səm bôrd) *noun*

See plasterboard. <sup>1</sup>

Further re claim 11: Sheet rock, which is gypsum board, is taught in col 1 lines 8-40.

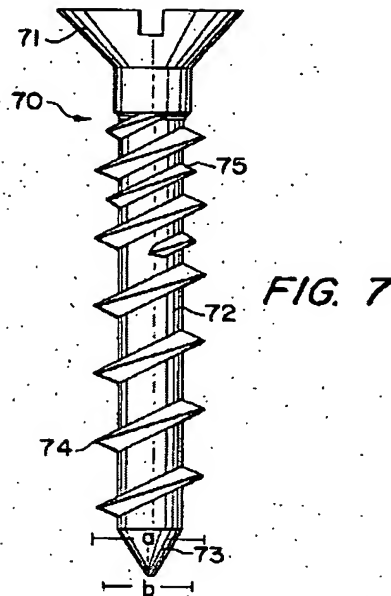
Further Re claim 12: The helical roughened surface<sup>15</sup> is disposed between thread convolutions on at least part of the shank, as shown in the cited figure above. Helical threads inherently define thread convolutions (coils).

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5. Claims 3-5, 13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated



by Bappert in view of Laverty USP 3861269.

Re claims 3 and 15: Bappert teaches a fastener (1) comprising

- a head (at 31,33)
- A shank (11 in Fig 3; col 4 lines 38-40) having a minor diameter ( $d$  in Fig 3) and a tip
- A first helical thread formed on the shank, wherein the ratio of the thread diameter ( $D$ ) to the shank diameter( $d$ ) is at least 1.5 to 1 (col 4 lines 11-25;  $D:d$  is approx 3:1; also " $D$ " is described as double " $d$ ")
- A helical roughened surface (15 in Fig 3) formed on at least part of the shank.

However, Bappert does not teach that the fastener has a second helical thread with a diameter substantially less than the first diameter.

Laverty teaches in Fig 7 a fastener for concrete or friable materials, comprising a

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head (71), a shank having a minor diameter(72) and tip (73), a first helical thread (74) on shank having a first diameter (a) and a second helical threading (75) formed on shank proximal the head (71) and distal the tip (73), the second thread having a second diameter (b) substantially smaller than the first diameter, as shown in Fig 7 and discussed in col 5 line 53-col 6 line 4. The second helical thread is disclosed as enhancing holding while minimizing stripping out. Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Bappert and Lavery before him at the time the invention was made, to modify Bappert as taught by Lavery to include a second thread having a second diameter substantially smaller than the first diameter thread of the first thread, in order to enhance holding while minimizing stripping. One would have been motivated to make such a combination because this would be useful where friable materials require enhanced gripping without causing the material to crumble or the hole to weaken and release the grip on all the threads.

Re claim 4: Lavery Fig 7 and col 5 line 53-col 6 line 4 teach the second helical threading extends over less than half the shank length.

Re claim 5: A rough measurement of Fig 7 shows the minor diameter (dotted line by examiner) approximately 5 units, and the first diameter approximately 10 units, or 2:0 to 1. Thread spacing would inherently be between 0.5 and 1.0 cm if the screw were used as a drywall screw as disclosed in col 1 lines 10-12, as approximate measurements of Fig 7 as printed are:

Total length @ 3.5"; Pitch @ 7/16", converting to metric, 1.11 cm. Average drywall screw @ 2", ratio  $3.5/2 = 1.11/x$ ;  $x=0.634$  cm

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Re claim 13: Bappert has a head at 31/33, and a tip at the end distal the head which is disclosed as capable of cutting, but not pointed. Lavery has a pointed tip 73. Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Bappert and Lavery before him at the time the invention was made, to modify Bappert as taught by Lavery to include a pointed tip in order to enhance the insertion and cutting of the fastener into the substrate, as is well-known in the art. One would have been motivated to make such a combination because pointed tips on fasteners are well known in the art as useful in piercing a substrate to begin the insertion hole for self-drilling fasteners, when a pre-drilled hole is not provided.

6. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Bappert in view of Lavery as applied above and further in view of Farrell USP 4653244.

Re claim 14: Bappert and Lavery teach a head but do not disclose that it includes grooves adapted to engage a Phillips-head screwdriver. Examiner takes Official Notice that Philips head screwdrivers are well known in the fastener art as drivers for headed fasteners, and fastener heads are well-known to have grooves adapted to engage common screwdrivers such as a Phillips head screwdriver, as evidenced by Farrell in Fig 1. Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Bappert and Lavery and Farrell before him at the time the invention was made, to modify Bappert as taught by Lavery to further include a head adapted for use with a Phillips head screwdriver, as is well-known in the art. One would have been motivated to make such a combination because Phillips head drivers are commonly



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used for driving screws are readily available and would not require customers to purchase a specialized driver.

### ***Response to Arguments***

7. Applicant's arguments filed 1/31/2005 have been fully considered but they are not persuasive. Applicant argues that "roughened" is patentably distinct over "uneven", but even applicant's own disclosure, (last paragraph, page 5) as cited by applicant teaches that roughened would include "ridges ...and/or valleys in contrast to the relatively smooth surfaces forming the threads", and the grooves of Bappert meets this limitation, as does the definition of rough:

**rough** (rŭf) *adjective*

1. Having a surface marked by irregularities, protuberances, or ridges; not smooth.<sup>2</sup>

### ***Allowable Subject Matter***

8. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: Applicant has defined shank as extending from the head to a terminal end, and claimed a helical roughened surface extending over the entire shank. Examiner has reviewed the drawings and determined that these also show the roughened surface

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over the entire shank, including the terminal end. While the prior art of record teaches that roughened surfaces are useful in enhancing the gripping between a fastener and friable material such as concrete, the tip is normally considered useful for piercing. Examiner can find no teaching or motivation to provide the roughened surface over the entire shank including the terminal end.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

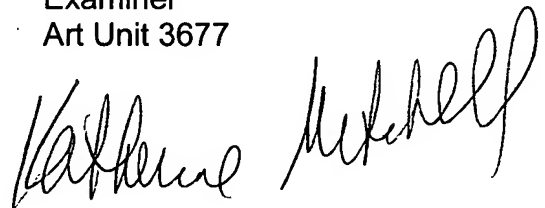
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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W. Mitchell whose telephone number is 571-272-7069. The examiner can normally be reached on Mon - Thurs 10 AM - 8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Katherine W Mitchell  
Examiner  
Art Unit 3677

A handwritten signature in black ink, appearing to read "Katherine Mitchell", written in a cursive style.

Kwm  
4/26/2005